

Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr			
130	135	140	
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Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn			
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ggc atc aag gtg aac ttc aag atc cgc cac aac atc gag gac ggc agc			528
Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser			
165	170	175	
gtg cag ctc gcc gac cac tac cag cag aac acc ccc atc ggc gac ggc			576
Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly			
180	185	190	
ccc gtg ctg ctg ccc gac aac cac tac ctg agc acc cag tcc gcc ctg			624
Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu			
195	200	205	
agc aaa gac ccc aac gag aag cgc gat cac atg gtc ctg ctg gag ttc			672
Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Glu Phe			
210	215	220	
gtg acc gcc gcc ggg atc act ctc ggc atg gac gag ctg tac aag			717
Val Thr Ala Ala Gly Ile Thr Leu Gly Met Asp Glu Leu Tyr Lys			
225	230	235	
taa			720
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Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile			
35	40	45	
Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr			
50	55	60	
Leu Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys			
65	70	75	80
Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu			
85	90	95	
Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu			
100	105	110	
Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly			
115	120	125	
Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr			
130	135	140	
Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn			
145	150	155	160
Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser			
165	170	175	

Val	Gln	Leu	Ala	Asp	His	Tyr	Gln	Gln	Asn	Thr	Pro	Ile	Gly	Asp	Gly
							180				185				190
Pro	Val	Leu	Leu	Pro	Asp	Asn	His	Tyr	Leu	Ser	Thr	Gln	Ser	Ala	Leu
							195				200				205
Ser	Lys	Asp	Pro	Asn	Glu	Lys	Arg	Asp	His	Met	Val	Leu	Leu	Glu	Phe
						210				215					220
Val	Thr	Ala	Ala	Gly	Ile	Thr	Leu	Gly	Met	Asp	Glu	Leu	Tyr	Lys	
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1				5					10					15	

48

gtc gag ctg gac ggc gac gta aac ggc cac aag ttc agc gtg tcc ggc
Val Glu Leu Asp Gly Asp Val Asn Gly His Lys Phe Ser Val Ser Gly
20 25 30

96

gag ggc gag ggc gat gcc acc tac ggc aag ctg acc ctg aag ttc atc
 Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile
 35 40 45

144

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tgc acc acc ggc aag ctg ccc gtg ccc tgg ccc aca cta gtg acc acc
Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr
      50           55           60

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192

ctg tct tac ggc gtg cag tgc ttc agc cgc tac ccc gac cac atg aag
Leu Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys
65 70 75 80

240

cag cac gac ttc ttc aag tcc gcc atg ccc gaa ggc tac gtc cag gag
 Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu
 85 90 95

288

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cgc acc atc ttc ttc aag gac gac ggc aac tac aag acc cgc gcc gag
Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu
          100          105          110

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336

gtg aag ttc gag ggc gac acc ctg gtg aac cgc atc gag ctg aag ggc
Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly
115 120 125

384

atc gac ttc aag gag gac ggc aac atc ctg ggg cac aag ctg gag tac
Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr
130 135 140

432

aac tac aac agc cac aac gtc tat atc atg gcc gac aag cag aag aac
Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn

145	150	155	160	
ggc atc aag gtg aac ttc aag atc cgc cac aac atc gag gac ggc agc				528
Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser				
165	170	175		
gtg cag ctc gcc gac cac tac cag cag aac acc ccc atc ggc gac ggc				576
Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly				
180	185	190		
ccc gtg ctg ctg ccc gac aac cac tac ctg agc acc cag tcc gcc ctg				624
Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu				
195	200	205		
agc aaa gac ccc aac gag aag cgc gat cac atg gtc ctc cta ggg ttc				672
Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Leu Gly Phe				
210	215	220		
gtg acc gcc gcc ggg atc act ctc ggc atg gac gag ctg tac aag				717
Val Thr Ala Ala Gly Ile Thr Leu Gly Met Asp Glu Leu Tyr Lys				
225	230	235		
taa				720
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20	25	30		
Glu Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile				
35	40	45		
Cys Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr				
50	55	60		
Leu Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys				
65	70	75	80	
Gln His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu				
85	90	95		
Arg Thr Ile Phe Phe Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu				
100	105	110		
Val Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly				
115	120	125		
Ile Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Leu Glu Tyr				
130	135	140		
Asn Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Gln Lys Asn				
145	150	155	160	
Gly Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Glu Asp Gly Ser				
165	170	175		
Val Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly				
180	185	190		
Pro Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu				
195	200	205		
Ser Lys Asp Pro Asn Glu Lys Arg Asp His Met Val Leu Gly Phe				

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gaa tta gat ggc gat gtt aat ggg caa aaa ttc tct gtt agt gga gag Glu Leu Asp Gly Asp Val Asn Gly Gln Lys Phe Ser Val Ser Gly Glu			
20	25	30	96
ggt gaa ggt gat gca aca tac gga aaa ctt acc ctt aaa ttt att tgc Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys			
35	40	45	144
act act ggg aag cta cct gtt cca tgg cca acg ctt gtc act act ctc Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu			
50	55	60	192
tct tat ggt gtt caa tgc ttt tct aga tac cca gat cat atg aaa cag Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln			
65	70	75	240
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85	90	95	288
act ata ttt tac aaa gat gac ggg aac tac aag aca cgt gct gaa gtc Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val			
100	105	110	336
aag ttt gaa ggt gat acc ctt gtt aat aga atc gag tta aaa ggt att Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile			
115	120	125	384
gat ttt aaa gaa gat gga aac att ctt gga cac aaa atg gaa tac aat Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu Tyr Asn			
130	135	140	432
tat aac tca cat aat gta tac atc atg gca gac aaa cca aag aat ggc Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys Asn Gly			
145	150	155	480
atc aaa gtt aac ttc aaa att aga cac aac att aaa gat gga agc gtt Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys Asp Gly Ser Val			
165	170	175	528

caa tta gca gac cat tat caa caa aat act cca att ggc gat ggc cct	576		
Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro			
180	185	190	
gtc ctt tta cca gac aac cat tac ctg tcc acg caa tct gcc ctt tcc	624		
Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser			
195	200	205	
aaa gat ccc aac gaa aag aga gat cac atg atc ctt ctt gag ttt gta	672		
Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu Leu Glu Phe Val			
210	215	220	
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taa	717		
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Gly Glu Gly Asp Ala Thr Tyr Gly Lys Leu Thr Leu Lys Phe Ile Cys			
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Thr Thr Gly Lys Leu Pro Val Pro Trp Pro Thr Leu Val Thr Thr Leu			
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Ser Tyr Gly Val Gln Cys Phe Ser Arg Tyr Pro Asp His Met Lys Gln			
65	70	75	80
His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg			
85	90	95	
Thr Ile Phe Tyr Lys Asp Asp Gly Asn Tyr Lys Thr Arg Ala Glu Val			
100	105	110	
Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile			
115	120	125	
Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu Tyr Asn			
130	135	140	
Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys Asn Gly			
145	150	155	160
Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys Asp Gly Ser Val			
165	170	175	
Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro			
180	185	190	
Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser			
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Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu Leu Glu Phe Val			
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gaa	tta	gat	ggc	gat	gtt	aat	ggg	caa	aaa	ttc	tct	gtt	agt	gga	gag		96
Glu	Leu	Asp	Gly	Asp	Val	Asn	Gly	Gln	Lys	Phe	Ser	Val	Ser	Gly	Glu		
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ggt	gaa	ggt	gat	gca	aca	tac	gga	aaa	ctt	acc	ctt	aaa	ttt	att	tgc		144
Gly	Glu	Gly	Asp	Ala	Thr	Tyr	Gly	Lys	Leu	Thr	Leu	Lys	Phe	Ile	Cys		
			35			40					45						
act	act	ggg	aag	cta	cct	gtt	cca	tgg	cca	acg	ctt	gtc	act	act	ctc		192
Thr	Thr	Gly	Lys	Leu	Pro	Val	Pro	Trp	Pro	Thr	Leu	Val	Thr	Thr	Leu		
			50			55					60						
tct	tat	ggt	gtt	caa	tgc	ttt	tct	aga	tac	cca	gat	cat	atg	aaa	cag		240
Ser	Tyr	Gly	Val	Gln	Cys	Phe	Ser	Arg	Tyr	Pro	Asp	His	Met	Lys	Gln		
			65			70					75			80			
cat	gac	ttt	ttc	aag	agt	gcc	atg	ccc	gaa	ggt	tat	gta	cag	gaa	aga		288
His	Asp	Phe	Phe	Lys	Ser	Ala	Met	Pro	Glu	Gly	Tyr	Val	Gln	Glu	Arg		
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act	ata	ttt	tac	aaa	gat	gac	ggg	aac	tac	aag	aca	cgt	gct	gaa	gtc		336
Thr	Ile	Phe	Tyr	Lys	Asp	Asp	Gly	Asn	Tyr	Lys	Thr	Arg	Ala	Glu	Val		
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aag	ttt	gaa	ggt	gat	acc	ctt	gtt	aat	aga	atc	gag	tta	aaa	ggt	att		384
Lys	Phe	Glu	Gly	Asp	Thr	Leu	Val	Asn	Arg	Ile	Glu	Leu	Lys	Gly	Ile		
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Asp	Phe	Lys	Glu	Asp	Gly	Asn	Ile	Leu	Gly	His	Lys	Met	Glu	Tyr	Asn		
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Tyr	Asn	Ser	His	Asn	Val	Tyr	Ile	Met	Ala	Asp	Lys	Pro	Lys	Asn	Gly		
						145			150			155			160		
atc	aaa	gtt	aac	ttc	aaa	att	aga	cac	aac	att	aaa	gat	gga	agc	gtt		528
Ile	Lys	Val	Asn	Phe	Lys	Ile	Arg	His	Asn	Ile	Lys	Asp	Gly	Ser	Val		
						165			170			175					
caa	tta	gca	gac	cat	tat	caa	caa	aat	act	cca	att	ggc	gat	ggc	cct		576
Gln	Leu	Ala	Asp	His	Tyr	Gln	Gln	Asn	Thr	Pro	Ile	Gly	Asp	Gly	Pro		
						180			185			190					

gtc ctt tta cca gac aac cat tac ctg tcc acg caa tct gcc ctt tcc	624
Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser	
195 200 205	
aaa gat ccc aac gaa aag aga gat cac atg atc ctc cta ggg ttt gta	672
Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu Leu Gly Phe Val	
210 215 220	
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His Asp Phe Phe Lys Ser Ala Met Pro Glu Gly Tyr Val Gln Glu Arg	
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Lys Phe Glu Gly Asp Thr Leu Val Asn Arg Ile Glu Leu Lys Gly Ile	
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Asp Phe Lys Glu Asp Gly Asn Ile Leu Gly His Lys Met Glu Tyr Asn	
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Tyr Asn Ser His Asn Val Tyr Ile Met Ala Asp Lys Pro Lys Asn Gly	
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Ile Lys Val Asn Phe Lys Ile Arg His Asn Ile Lys Asp Gly Ser Val	
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Gln Leu Ala Asp His Tyr Gln Gln Asn Thr Pro Ile Gly Asp Gly Pro	
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Val Leu Leu Pro Asp Asn His Tyr Leu Ser Thr Gln Ser Ala Leu Ser	
195 200 205	
Lys Asp Pro Asn Glu Lys Arg Asp His Met Ile Leu Leu Gly Phe Val	
210 215 220	
Thr Ala Ala Gly Ile Thr His Gly Met Asp Glu Leu Tyr Lys	
225 230 235	